Answer ALL the questions on Databases and Spreadsheets. Please type the answer under the question.

2.2.2 Databases and spreadsheets

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| Section | objective | Content |
| **2.2.2** |  | **Databases (5)** |
| 1 |  | Define database. |
| 2 |  | Define file. |
| 3 |  | Define record |
| 4 |  | Define field. |
| 5 |  | Describe the structure of a database. Include the features and functions of file, record and field. |
| 7 |  | Compare the structure and functions of spreadsheets and databases. Students frequently confuse these two applications. |
| 8 |  | Define database management system (DBMS). |
| 9 |  | Outline the functions of a database management system including queries, sorts, reports and maintenance. |
| 10 |  | Design a database with at least six fields. Students should be able to design a simple database using text, and numerical and date fields. For example, students often confuse entering a telephone number in a text field with entering it in a numerical field because a telephone number contains digits. |
| 11 |  | Compare three advantages and three disadvantages of paper files with electronic files. |
| 12 |  | Explain how databases can be used to solve two problems, including one involving a mail merge |
| 14 |  | Explain how the Boolean operators AND, OR and NOT can be used to search databases for specific information. |
| 15 |  | Outline how data can be transferred between a word processor, database and spreadsheet. |
| 16 |  | Discuss one situation where database management systems have been used in each of the following situations: school; business organization; leisure activity. The list of applications is extensive. Examples could be selected from a variety of sources such as school grading systems, hospital records, banking, airline reservations systems, etc. |
| 17 |  | Define data redundancy. |
| 18 |  | Define data integrity. |
| 19 |  | Discuss ethical issues of privacy and security that arise from the widespread use of databases, including the inappropriate collection and use of data, and the rights of the individual with respect to the storage of personal data. Include effects of legislation in your own country regarding access to, and use of, information. Students should reflect on the positive and negative outcomes that could result from all the world's databases containing information about them or their families. |

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| Section | objective | Content |
| **2.2.2** |  | **Spreadsheets (8h)** |
| 1 |  | Define spreadsheet. |
| 2 |  | Outline the components of a spreadsheet including rows, columns, formulas, formatting and macros. |
| 6 |  | Suggest two possible future developments in spreadsheet software. |
| 7 |  | Discuss one situation where spreadsheets have been used to solve problems for each of the following: individuals, communities, and institutions/organizations. list of such applications is extensive. Examples could be selected from a variety of sources such as financial, statistical calculations, scientific measurements, etc. |
| 8 |  | Design a spreadsheet to solve a simple problem. Students may be asked to solve a simple problem by suggesting numbers of rows and columns, titles and information to be entered in various cells of a spreadsheet. Answers could involve labels, numbers, formulas for numerical calculation, character manipulation |
| 9 |  | Discuss the possible ethical considerations arising from a total dependence on spreadsheets.  Students need to be aware that they must have a way of 'testing' if results in the cells of a spreadsheet are correct. They need to examine spreadsheet results by the 'does it make sense' rule, and sample cells checked by calculator or against known results. |

Good Luck!

DEADLINE: 20 JUNE 2011